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# CATALOG

## NURSERY STOCK



### NURSERIES

No. 1: Healdsburg  
No. 2: Modesto  
No. 3: Woodland

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No. 5: Chowchilla  
No. 6: Turlock

J. F. MILLER & SONS  
HEALDSBURG · CALIFORNIA

"BETTER TREES ARE NOT GROWN"

## Please Observe Before Placing Your Order

**MAKE USE OF THE ORDER SHEET:** The order sheet accompanying this catalogue is for your convenience, and we will appreciate your using it. It will help to eliminate the possibilities of mistakes, and will save both your time and ours.

**PRICES:** You will find price list accompanying this catalogue covering all stock listed in this catalogue. Stocks mentioned in this catalogue will be furnished as follows: five of a variety at the 10 rate; 50 at the 100 rate; 300 at the 1000 rate. Prices subject to change without notice.

**SHIPPING INSTRUCTIONS:** Always give your nearest express office and railway station, or stage route, and the name of the transportation company. Do not fail to advise how you wish us to ship—by freight, express or parcels post—otherwise we will use our best judgment in forwarding your shipment.

**PACKING:** Packing will be charged at actual cost to us. No charge will be made for delivering stock to the freight or express houses.

**TERMS:** Cash, unless other arrangements are made. Send postoffice or express money order, registered letter, bank draft or check. It is perfectly satisfactory for our customers to send their personal checks on their local bank, which will be accepted for collection. No order will be shipped C. O. D. unless accompanied by a substantial deposit. On all advance orders we require a 20 per cent deposit with the order, we will then reserve the stock for shipment at any time designated by the customer.

**SUBSTITUTION:** Please state whether substitution will be allowed, as we feel at liberty, when no instructions accompany the order, to use other varieties as nearly similar as possible. It often happens we can offer a better selection than named in the order, and we will gladly do so when permitted. We never substitute on large orders without consulting the customer.

**ERRORS AND OMISSIONS:** Mistakes made in filling orders will be cheerfully rectified, but we request that our customers notify us promptly upon arrival of stock, of any error found. Our responsibility ceases after stock has been packed and delivered to the carriers in good condition. All customers are requested to keep their shipping receipts, as it is sometimes necessary to file claim with the carriers for damage or delay in transit, and it is necessary to file the original receipt with such claim.

**GUARANTEE:** J. F. Miller & Sons will exercise great care to have all stock true to name, nevertheless it is understood and agreed that should any stock prove untrue to name, J. F. Miller & Sons shall be liable only for the sum paid for the stock which may prove untrue, and shall not be liable for any greater amount. J. F. Miller & Sons book all orders with the distinct understanding that same shall be void, should any injury befall the stock from flood, drouth, frost or other causes beyond their control.

Address all communications to—

**J. F. MILLER & SONS**  
Healdsburg, California



## Planters and Growers

It is a great pleasure to us to be able to present you with our latest catalogue on the planting, pruning, and growing of all varieties of fruits, nuts, grapes, etc. In preparing this catalogue we have tried to include those things which are of real value to the planter and grower.

We have always been ready to assist the planter in any way possible and believe our success and increased volume of business has been largely due to our cooperative methods.

Our thirty years in the Nursery business has fitted us so that we are in a position to give this information and we want our planters to be free to write us and ask for any information needed along this line. On the following pages of this book we have gone into the work of planting and pruning, and have given complete descriptions of all the fruits, etc., we propagate.

Should the grower, however, have any problems connected with the planting of his stock, etc., we will at all times be glad to give any information at our command as we fully realize cooperation between planters and nurserymen is at all times profitable and more satisfactory to all concerned.

We extend to you a cordial invitation to visit any of our Nursery Plants and see the care exercised in the growing and handling of our stock.

## Our Stock

We grow our stock in six different localities in California. Each variety of fruit is adapted to certain localities, therefore we grow our stock in locations suitable for that particular variety.

We exercise the greatest care that can be given in proper selection of seedling stocks, cutting our buds from trees of well known productivity and giving the best care and cultivation to the young trees.

So confident are we of our stock that we give our customers the privilege of culling any trees from our shipments which are not absolutely satisfactory.

We make special quotations on large orders and car lots. Order your stock early as this insures prompt shipment when it's time to plant and enables you to have your trees ready to put into the ground when you want to. Write for estimate. Give list of requirements, varieties, grades, etc. No nursery on the Pacific Coast offers better stock for the money.

# Valuable Hints on Fruit Tree Culture



Trees—Comparison of Sizes  
4 to 6 ft.                      3 to 4 ft.                      2 to 3 ft.

## Planting Instructions

Failure to get satisfactory results in planting trees received from the Nursery can be largely avoided if a few simple rules for pruning and planting are observed. On arrival of trees from the Nursery, if unable to plant immediately, and if the trees are not balled, they should be taken from the bale or box at once, counted and the individual tree examined. Should there be a shortage, an undergrade or an unauthorized substitution, it should be reported directly to the office immediately. The trees should immediately be heeled in a moist soil and the earth thoroughly packed around the roots.

In orchard planting, the ground should be thoroughly broken, pulverized, harrowed, leveled, surveyed, or laid off with a small stake standing where each tree is to be

planted. In hardpan soils it is absolutely necessary to blast the holes, prior to planting the trees.

Before digging the holes it is necessary to have a tree setting board. This is easily made out of a piece of board about one by four inches and six feet long. Bore an inch hole at each end, and cut a notch in the center. Place the notched center against the stake where the tree is to be planted and push a stake into the ground through the holes at each end of the planter, then remove the center stake and board. Dig the hole large enough for the tree roots to spread out without cramping them. After the hole is dug, replace the board over the end stakes in its former position, then plant the tree with the trunk end resting against the center notch in the board and it will be in identically the same place as the stake which was removed to dig the hole. Spread out the roots in their natural position and sift in and work fine, moist pulverized earth around the roots, pouring in from one to three buckets of water. Guard against setting too deeply but allow for the settling of the soil, so that the tree will stand about as it did in the nursery row. Never plant a tree when the soil is too moist or wet, and never put manure of any sort in the hole when planting.

All roots should be cut back an inch or so to insure a healthy start. Injured or broken roots must be cut off.

## Bringing an Orchard or Vineyard into Bearing

The care taken for the first two or three years in cultivating, pruning and irrigating, where the rainfall is insufficient to carry the trees through the long dry summer months, is the foundation for the orchard which will give you ample returns for your intelligent care and years of hard work. The orchard will give corresponding returns for the investment of capital, labor, and time just in the proportion of intensive and intelligent care it receives.

Never fail to cut the tree back after it is set. This practice is carried out by all successful orchardists throughout California, and is the result of years of experience.

Next to thorough cultivation there is nothing which is more vital to the life of a tree than proper irrigation. In districts where irrigation is practiced, water should be applied at least four times a year. For the first two years it is not necessary to irrigate all the ground between the rows. A space six feet wide will do in nearly all cases.

## Laying Out the Orchard

There are a number of methods of planting an orchard. Vineyards are usually set in a square system. We are exhibiting diagrams showing the different methods with explanations.



## HEALDSBURG, CALIFORNIA

**SQUARE SYSTEM**—The advantage of this system is that it permits cultivation both ways. The first step to be taken is this and the following plans, is to have your base lines at right angles. In planting a large place, these lines should be obtained by a transit.

**EXPLANATION OF DIAGRAMS**—The planting distances are represented by the figure 1; all other related distances by multiple parts of 1, so that any desired distance on any of the diagrams may be obtained by the simple process of multiplying the desired planting distance indicated on diagram.

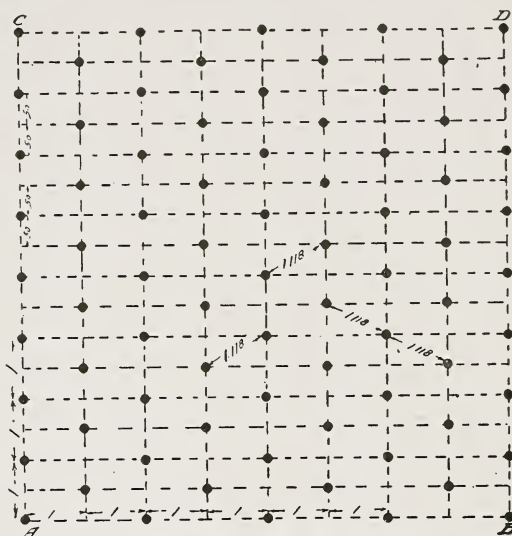
**RULE: Square Method**—Multiply the distance in feet between the rows by the distance the plants are apart in the rows, and the product will be the number of square feet for each plant or hill; which, divided into the number of feet in an acre (43,560), will give the number of plants or trees to an acre.

Lay off the base lines A B and A C along two sides of the planting field in such a manner that the angle at A is an exact right angle (90 degrees), and set stakes on said base lines the desired distance apart. Care must be exercised to have all stakes on true lines.

A right angle can be formed in the field by the following method:

Lay off 30 feet from A along base line A B on the diagram, then a point on base line A C will be 40 feet from A and 50 feet from the other end of the 30-foot length.

After setting the stakes along the base lines at planting distance apart, the next step should be to set stakes along secondary lines drawn parallel with base lines A B, and such distances therefrom as will be multiples of the



ALTERNATE PLANTING

Experience has demonstrated that a 250-foot chain is the most serviceable. The chain should be stretched for several days before using to prevent too much variation in the field. Iron stake pins should be used to hold the chain in position. To do this properly it is advisable to lay off a temporary base line B D from end B of base line A B and at right angles thereto, setting flags on such temporary base lines at distances to correspond with the spacing of the secondary lines.

With the flags as a guide lay off the planting stakes on the secondary lines, starting always from base of line A C.

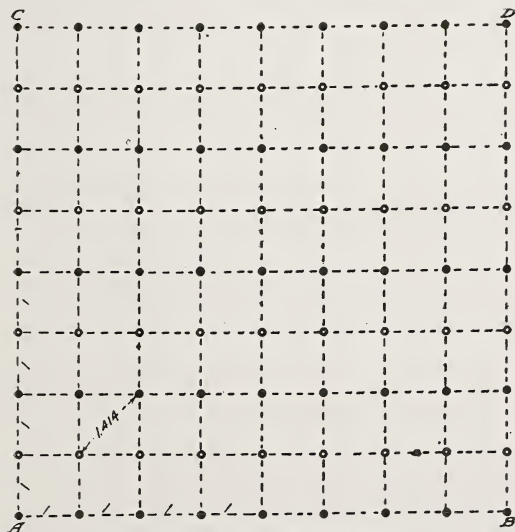
All that is required to complete the staking will be to stretch the chain between similar points on the secondary line and set the stakes at tag on the chain previously adjusted.

**ALTERNATE SYSTEM**—Let the planting distances be 24 feet apart; and then all stakes on base line A B will be 24 feet apart. The alternate stakes on this line will be for temporary use only. In setting stakes on lines parallel with base A C, the tags of one color should be spaced 24 feet apart, commencing at the zero end. Tags of another color (for use on alternate lines) should be spaced 24 feet apart, commencing at a distance of 12 feet from the zero end of the chain.

**RULE: Alternate Method**—The number of plants required per acre by this method is the same as that required by the "square method" with similar planting distances.

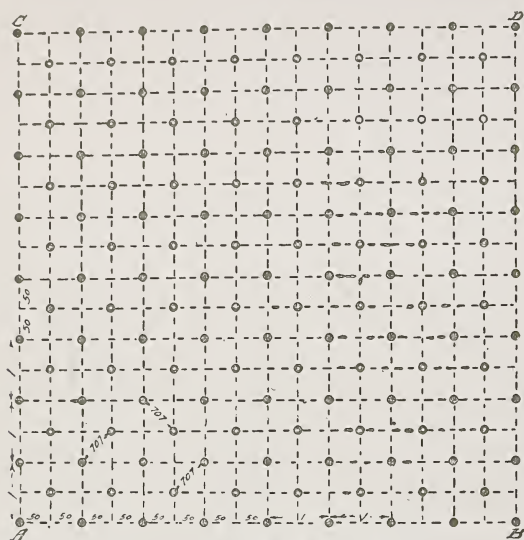
**QUINCUNX SYSTEM**—The only advantage in this method of planting is in connection with using a filler temporarily, to be dug up as soon as there is any indication of crowding. This permits of double the amount of trees to the acre than in the square system.

Proceed to stake the field in squares. Then without the aid of a chain, place a stake in the center of each square. This is readily determined by sighting along the two diagonal rows of stakes at right angles to each other.



SQUARE PLANTING

planting distance required, and at the same time no further apart than permitted by the length of the planting chain.



QUINCUNX PLANTING

**RULE: Quincunx Method**—Multiply the number required to the acre "square method" by 2. The result will be the number of plants required to the acre by this method.

**HEXAGONAL SYSTEM**—This is the only one in which the trees are equidistant apart in every direction, every tree being at one point of an equilateral triangle.

The name "septuple," sometimes applied to this system, refers to the fact that the number of trees in each group unit is seven. Note hexagon on diagram.

To illustrate the plan to be followed, we will consider that the trees are to be set 24 feet apart. Then on base line A B set stakes 24 feet apart. On base line A C set stakes 0.866 times the planting distance apart or every 20.784 feet or (20 feet, 9 inches).

The first stake on the intermediate line, shown by the hollow circle on the diagram, should be 12 feet from the base line A C and 20 feet 9 inches from base line C D.

In using this method of staking, tags of two different colors should be used, one starting at zero and the other .50 times the planting distance from the zero end of the chain.

For the convenience of the planter we are giving herewith the distances between rows of trees, parallel with base line A B on the diagram, to correspond with various planting distances:

As an illustration, if trees are planted 18 feet apart on base line A B, the following row would be 15 feet 7 inches and correspondingly greater distance where the trees are to be planted further apart.

Base line A B 18 ft. Secondary line 15 ft., 7 in. from A B  
 Base line A B 20 ft. Secondary line 17 ft., 4 in. from A B  
 Base line A B 22 ft. Secondary line 19 ft. ½ in. from A B  
 Base line A B 24 ft. Secondary line 20 ft., 9 in. from A B  
 Base line A B 28 ft. Secondary line 24 ft., 3 in. from A B  
 Base line A B 30 ft. Secondary line 26 ft., 0 in. from A B  
 Base line A B 36 ft. Secondary line 31 ft., 2 in. from A B  
 Base line A B 40 ft. Secondary line 34 ft., 8 in. from A B

**RULE: Hexagonal Method**—First, figure the number of trees required per acre by the "square method," using the same planting distance; then divide by the decimal .866. The result will be the number of plants required to the acre by this method.

#### NUMBER OF TREES TO THE ACRE

Distance	Square	Quincunx	Hexagonal	Alternate
8 ft.	680	1360	785	680
10 ft.	435	870	500	435
12 ft.	302	604	349	302
14 ft.	222	444	255	222
16 ft.	170	340	196	170
18 ft.	134	268	154	134
20 ft.	109	218	124	109
22 ft.	90	180	104	90
24 ft.	75	150	87	75
25 ft.	70	140	80	70
26 ft.	64	128	74	64
28 ft.	56	112	64	56
30 ft.	48	96	55	48
32 ft.	43	86	49	43
36 ft.	34	68	39	34
40 ft.	27	54	31	27
45 ft.	22	44	25	22

**Note**—All of these figures are not exact for planting one acre, but are intended for the planting of a multiple of acres.

#### Planting Distances

	Distance apart each way
Standard Apples .....	25 to 30 feet
Standard Pears .....	24 to 30 feet
Dwarf Pears .....	12 to 15 feet
Strong-growing Cherries .....	24 to 30 feet
Duke and Morello Cherries .....	18 to 24 feet
Standard Plums and Prunes .....	24 to 30 feet
Peaches and Nectarines .....	24 to 30 feet
Quinces .....	15 to 20 feet

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Apricots .....	24 to 30 feet
Figs .....	25 to 35 feet
Olives .....	30 to 35 feet
Citrus Trees .....	22 to 30 feet
Walnuts .....	40 to 50 feet
Almonds .....	24 to 30 feet
Grapes .....	6x6, 6x12 and 8x10 feet

### Spray Formulas

(All formulas on basis of 100 gallons of water.)

#### CODLING MOTH—(Apples, Pears)

First spray, just as petals begin to fall. Spreader  $\frac{3}{4}$  pounds, arsenate of lead  $2\frac{1}{2}$  pounds.

Second spray, two to three weeks after last. Spreader  $\frac{3}{4}$  pound, arsenate of lead 2 pounds.

Third spray, July 5 to 15. Spreader  $\frac{3}{4}$  pound, arsenate of lead 2 pounds.

#### THRIPS—(Prunes, Cherries, Pears)

Larvae or white thrips after blossoms fall, tiny fruit in boot.

Kayso spreader 1 pound, black leaf-40 12 ounces.

OR

Nicotine sulphur custs containing not less than 5% black leaf-40.

#### RED SPIDER—(Prunes, Cherries, Almonds)

As leaves show evidence of attack. Kayso spreader  $\frac{1}{2}$  pound, wetable sulphur 5 pounds.

OR

Special dusting sulphur applied with duster. Repeat in ten days. (May be combined with Thrips spray.)

#### APHIS—(Apples, Prunes, Almonds)

Apply on first appearance. Kayso 1 pound, black leaf-40 8 ounces.

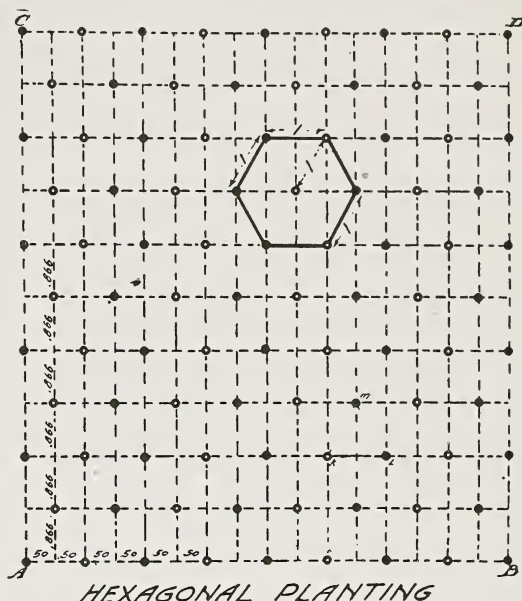
OR

Nicotine dust containing at least 5% black leaf-40.

#### SCAB—(Apples, Pears)

First spray as petals drop. Lime sulphur 2 gallons or dry equivalent. (May be combined with codling moth spray.)

Second spray, as pears are setting or on evidence of scab. Lime sulphur 1 to 2 gallons, Kayso  $\frac{3}{4}$  pound.



(May be combined with codling moth spray). Or wetable sulphur 5 pounds. (May be combined with codling moth spray).

#### MILDEW—(Apples)

Add to codling moth or scab sprays 5 pounds of wetable sulphur.

### White Wash Formulas

Any whitewash should cure before applying. The length of time allowed after mixing before applying should not be less than two days and a week is better. Only the best lime should be used. Old stock or lime slightly air slaked should be avoided. It is always best to start the slaking process with hot water. Ten pounds of lime will make from 8 to 10 gallons of whitewash when applied with a brush or 12 to 15 when used as a spray.

The following formulas are given in order of their sticking qualities, the best first:

**Lime Skim Milk.** Slak the lime with sufficient water to prevent burning and enough to give a consistency of thin mud. When ready to apply add only skimmed milk to produce the desired thinness.

**Lime Kerosene.** Pour one quart of kerosene over ten pounds of lime. While slaking add one-half pound of sulphur, cover until boiling has ceased. The addition of one-fourth pound of Kayso spreader will materially improve this wash when ready to apply.



# Deciduous Fruits



Gravenstein  
The Best Early Variety

## The Apple

There is no fruit so widely distributed or more extensively planted than the apple. The number of trees is rapidly decreasing in the east, and the west must supply these markets. The western grower has the advantage of regular production due to the equable climate and dry summers, which are not favorable to fungus or insect diseases. From its enormous list of varieties we have selected only those best adapted to California culture. Each locality seems to require certain varieties. Watsonville is the center of the yellow apples—Yellow Newtown Pippin, Bellefleur, and Winter Banana. In the mountain regions of the south, and the Pacific northwest, the Delicious, Jonathan, Winesap, Rome Beauty, Baldwin and Arkansas Black are the leading varieties. The Gravenstein is grown almost exclusively in Sonoma and Napa Valleys. In all districts, the tendency is to concentrate on the very few varieties that do best under their local conditions.

The soil best adapted for this fruit is a deep, rich, well drained loam. Light sandy locations should be avoided. Apples grown in the mountainous regions have better keeping qualities and are more highly colored and flavored than those grown in the interior valleys.

Apple trees should be planted from 25 to 35 feet apart in regular orchard form, and should be cut back to 20 inches when planted. This rule, however, varies with the higher altitudes where, on account of heavy snowfall, the trees should be headed from 24 to 36 inches from the ground to prevent the snow from breaking the branches.

Apple trees are subject to sunburn the first few years after planting, and we recommend to our customers to always use tree protectors on their stock.

Proper pruning of the trees the first year is a very important item. No branches closer than one foot from the ground should be allowed to grow. The following winter they should be thinned out to four branches, and these cut back about one-third to form the head of the tree. The second winter no more than two laterals should be allowed to remain, and if they crowd, only one should be left, and its growth should again be shortened severely. The head of the tree is now formed and future pruning should be determined by the orchardist—that is, the prevention of the overcrowding of limbs—the development of laterals to spread the tree if inclined to make too much of an upright growth.

Over-production causes the fruit to be small and thinning should be resorted to. It increases the size, permits even spraying and gives the fruit better color and appearance.

Apple trees should come into bearing from 6-8 years after planting, and should produce a paying crop the eighth year. This, however, depends very much on the care and cultivation given, and the soil upon which the trees are planted. The planter is always well repaid for the extra care and attention given his orchard by its producing earlier, better and more fruits.

## VARIETIES AND DESCRIPTIONS

**Alexander.** Very large; greenish yellow streaked with red; good quality; a strong grower and fairly productive; an excellent market apple. August.

**Arkansas Black.** Fruit medium in size, nearly round and fairly uniform, with a smooth waxy skin of a most beautiful dark red color, turning almost black on the sunny side; flesh yellow tinged, firm, fine grained, juicy, and a long keeper. Ripens in December.

**Baldwin.** Medium to large, roundish; deep red; very productive; the most widely grown apple in America, but not so popular now as formerly. October.

**Ben Davis.** Large, handsome, striped and of fair quality; very productive and a good keeper. November.



Jonathan  
One of the Best Market Varieties



## HEALDSBURG, CALIFORNIA

**Black Ben Davis.** Very handsome in color, being considerably darker than Ben Davis, and superior in quality. The tree has the Ben Davis habit of growth, but is even stronger. November.

**Delicious.** Magnificent variety of fine appearance and delightful flavor; very large size, rather conical in form, brilliant red slightly splashed with yellow; flesh fine grained, crisp, rich; juicy and sweet; a vigorous grower and abundant bearer; a long keeper of remarkable high quality. Delicious.

**Early Harvest.** Medium size; pale yellow; tender, mild and fine flavor; erect grower and good bearer. July.

**Gano.** Medium large, oblate, irregular, red striped, handsome; sub-acid, good; medium to late. October.

**Gravenstein.** A very large, roundish apple of the very finest quality. Very beautiful, striped red and orange. Tree rapid, vigorous and erect in growth and very productive. Absolutely the finest and most popular early variety on the coast. July to August.

**Grimes Golden Pippin.** Medium to large, skin golden yellow, sprinkled with gray dots; of beautiful appearance and good flavor. November.

**Hoover.** Large, dark deep red with light dots; crisp, juicy and good flavor. October.

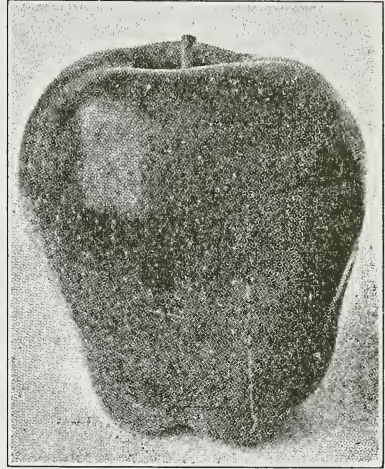
**Jonathan.** Medium to large; conical; skin yellow, nearly covered with dark red; flesh fine grained, tender, juicy and of good flavor; bears abundantly; keeps well; one of the best varieties for either table or market. October.

**King David.** Fruit large, wine red, blotched yellow; a very heavy bearer; uniform in size and shape. Flesh firm, crisp and juicy. Its high color and delicious flavor are causing it to be a winner. October.

**Maidens Blush.** Medium to large; yellow with clear red cheek; flesh white, tender, with pleasant sub-acid flavor; good bearer. August.

**Red Astrachan.** Large and handsome, nearly covered with deep crimson; juicy and crisp, with rich acid flavor; a heavy bearer; one of the best early apples. July.

**Red June.** Medium; oblong; color deep red; flesh tender, juicy, sub acid; a fine table variety. June and July.



Delicious

**Rhode Island Greening.** A widely known variety that does well in almost all localities. Fruit large; yellowish-green when ripe; flesh tender, juicy, slightly acid, and rich. October.

**Rome Beauty.** A large excellent variety which thrives well in the higher altitudes of the foothill and mountain districts; is a late bloomer and a regular bearer. Fruit yellow striped with red, very handsome, of fine quality and good flavor. October.

**Skinner's Seedling (Skinner's Pippin).** Large; skin thin, pale yellow, often with a blush on sunny side; flesh tender, juicy and sub-acid; tree a close, vigorous grower. Considered one of the best early fall varieties. August.

**Smith's Cider.** Large and handsome; red and yellow; juicy, acid. A strong grower and heavy bearer. November.

**Spitzenberg.** Large, tapering; light red, delicately coated with light bloom; flesh butter yellow, with rich flavor; the most extensively grown red apple in the Hood River Valley. November.

**Stayman's Winesap.** The fruit is very much larger, not quite as rich in color, but, in all, is an improvement over the Winesap. The skin is rather smooth and thick, of a green color, becoming more yellowish when ripe and covered with a dull red, sometimes faintly striped with carmine; flesh firm, juicy and mildly sub-acid. December.

**Wagener.** Medium size; deep red in the sun; flesh yellow, very tender, juicy, excellent, very high flavor. January.

**White Astrachan.** Very large; roundish; very smooth and nearly white; one of the best summer apples. July.

**White Winter Pearmain.** A medium, oblong, pale yellow, tender juicy, with extra high flavor. The tree is exceedingly vigorous, produces uniformly an abundant harvest. This variety is recommended by growers for planting in all sections of California.

**Winesap.** Fruit medium in size, round, skin smooth, thick, yellow covered with a dark, glossy red. Flesh pale yellow, texture firm and crisp. Flavor good, slightly acid; a good bearer. A favorite market variety in the West commanding the highest prices. November.

**Winter Banana.** Fruit large, perfect in form; golden



Packing Bellflowers in Orchard





**Bartlett**  
Leading Commercial Pear of California

yellow, beautifully shaded with blush; flesh yellow, fine grained, rich, aromatic flavor. The tree is a wonderful grower and bearer, three year old trees often being laden with fruit. October.

**Yellow Bellflower.** Large, oblong; skin smooth; flesh crisp, juicy, with sprightly aromatic flavor; yellow in color often with blush next the sun; an excellent and valuable variety; tree a fine grower and good bearer. One of the leading commercial varieties in California. October.

**Yellow Newtown Pippin.** The fruit large and roundish; flesh firm, crisp and juicy; color golden yellow, overspread with russet dots. Generally considered the best winter apple in California. Ripens in December and keeps well until the latter part of May.

## The Crabapple

The crabapple is highly prized for jelly-making and every home orchard should contain one of these trees. The cultural directions are the same as for apples.

### VARIETIES AND DESCRIPTIONS

**Hyslop.** A popular variety on account of its size, beauty and hardness; fruit deep crimson, overspread with a thick blue bloom. September.

**Red Siberian.** Fruit grows in clusters, small, round, yellow with scarlet cheek. Tree a vigorous grower and bears at an early stage. August.

**Transcendant.** The best crab for general use. Fruit large; skin yellow striped with red and covered with a delicate pale blue bloom when ripe; flavor pleasant and aromatic. August.

**Yellow Siberian.** Fruit large size; beautiful golden yellow, or amber; flesh amber, juicy and sub-sweet. August.

## The Pear

Pears are cultivated very generally in all sections of California, and for the past several seasons have been bringing excellent returns to the growers, both for canning, drying and for eastern shipment. The trees do well on all soils, succeeding best on a heavy loam soil, but will grow well on alkaline soils where other fruits refuse to bear and often die. They will also withstand considerable neglect and still yield good crops.

Pear trees are ordinarily planted from 20 to 25 feet apart. Dwarf varieties, that is those worked on Quince roots are planted from 12 to 15 feet apart.

The trees should be cut back to 18 inches from the ground when planted, and protected by using tree protectors. The trees should be pruned vase form, this seems to be a natural tendency of the growth. On account of the tendency of the tree towards an upright growth, methods of pruning must be applied to hold the tree in control. In pruning the first year, remove all shoots except three or four, which are to form the head of the tree, and these branches should be cut back at least one-half. The following year new growth starting from these branches should be pruned back one-half, leaving one or two spurs on the branches of the year before. The third season the new growth should be cut back to one-third, leaving the leaders longer and this time allow several new laterals to remain properly distributed on the main branch, pruning away at least one-third of their growth. In the following seasons cutting back of the tree is regulated by its growth.

Pear trees come into bearing four or five years after planting, and a profitable crop should be picked when the trees are eight years old.

Pear trees are budded on the Japanese, French and Quince roots. For general planting we recommend the Japanese root. Pears budded on Quince are suitable for planting in home orchards.

### VARIETIES AND DESCRIPTIONS

**Bartlett.** The leading commercial pear of California for canning, shipping and drying. More than 90% of the pears grown in the state are Bartletts. Tree a vigorous grower and a heavy bearer; fruit large, smooth, clear yellow, sometimes with a delicate blush; flesh white, fine grain, juicy, buttery and delicious. August.

**Beurre Bosc.** A fine, large pear with a long neck. Color a cinnamon russet; flesh white, very rich, melting and delicious. Tree a vigorous grower and a regular bearer. September.

**Beurre Clairgeau.** Very large; pyriform; yellow with orange and crimson shadings, showing many russet dots; flesh yellowish; buttery and juicy; one of the earliest and most prolific bearers. A splendid shipping sort. September.

**Beurre d'Anjou.** Large, obtuse, pyriform; has a short thick stem and a small calyx; color russet-yellow, shaded with crimson; flesh juicy, melting and highly perfumed. Tree a good grower and heavy cropper. September.

**Beurre Hardy.** Large, cinnamon russet, shaded with brownish red; flesh juicy, melting, and very pleasant flavor. September.

**Doyenne du Comice.** The most popular winter pear. Fruit large, roundish pyriform; greenish yellow; ripening, becomes a fine yellow shaded crimson, slightly marked with russet spots; flesh white, fine, melting, aromatic. Tree a regular and heavy bearer. October.

**Easter Beurre.** Very large; yellowish green; fine grained; very buttery, melting and juicy, with a sweet rich flavor. One of the best keepers. October.

**Flemish Beauty.** Large; pale yellow, nearly covered with russet; rich, juicy, melting and sweet; very vigorous and productive. September.

**Kieffer.** Large; skin rich golden yellow, sprinkled thickly with small dots, and often tinted with crimson on one side. Flesh slightly coarse, juicy and with a quince flavor. October.

**Seckel.** A small pear of excellent flavor. Regularly formed; yellow with russet red cheek; flesh cream color; flavor rich, spicy and aromatic. September.

**Winter Bartlett.** Fruit large, closely resembling the Bartlett, but ripening four months later. Fruit yellow with brown dots; bluish on the sunny side; flesh juicy and melting with a Bartlett flavor. A good keeper. November.

**Winter Nellis.** An excellent keeper and a good shipper. Fruit medium, roundish, obovate; yellowish green dotted with gray russet; flesh yellowish white; fine grained, juicy, rich and sweet. Tree bears heavily and regularly. December.

## The Quince

The quince has not as yet been planted on a very large commercial scale, yet they are valuable to the home orchard as they are superior to any other fruit for jelly-making. It thrives best in a deep, loamy, moist soil and is particularly adapted to planting in low damp land where other fruits will not thrive.

### VARIETIES AND DESCRIPTIONS

**Apple or Orange.** The former part of the name of this variety was given on account of its shape which resembles an apple. Fruit large; fine golden color; very productive. September.

**Champion.** Very large and handsome; flesh tender; flavor delicate and delicious; very productive. September.

**Pineapple.** The name is suggested by the flavor. The fruit resembles the Orange Quince but is smoother and more globular. The flesh is white and will cook tender in five or ten minutes. Makes a high flavored jelly. Late August.

**Smyrna.** Extremely large and elongated; lemon yellow; cooks tender and has a fine flavor; long keeper; tree strong grower with heavy foliage; very prolific. September.

## The Cherry

Although the amount of cherries grown in the state is small compared with other fruits, there are few finer fruits, and when the right varieties are planted in the right place, they invariably yield good crops. It is true that the cherry districts are limited, yet orchardists in these particular districts have derived wonderful results, and the ever-increasing demand in the East for California fruits should prove an incentive to plant cherries over greater territory. California cherries are on the market when no other cherries from any other state are available.

The cherry requires a very deep, moist, loam soil that is well drained.

On ordinary soils the trees should be planted 25 feet apart, but on very rich soils 30 feet apart is advisable.



Black Tartarian

It is important to head cherry trees low so that the leaves will entirely shelter the bark from the direct rays of the sun. Tree protectors should be used until the trunks of the trees are shaded.

When the trees are planted, head them back to 20 inches. In the following pruning season three or four branches should be allowed to grow to form the head of the tree, and these should be so distributed as to prevent forks as the cherry has a tendency to split as it grows older. The first winter these branches should be cut back one-half and the following winter not more than one or two branches should be allowed to grow from those left the first year. This system of pruning should be followed until the trees are five years old. After that all the pruning required is to cut off all interfering or overcrowding branches.

Under favorable conditions the cherry comes into bearing from four to six years after planting.

### VARIETIES AND DESCRIPTIONS

**Bing.** One of the best black sweet cherries. Fruit very large, heart shaped; skin dark brown or black; flesh firm, meaty, sweet and delicious and a purplish red color. Tree a strong vigorous grower and a prolific bearer. Crop ripens uniformly; a splendid shipper and a good canner. Middle June.

**Black Republican (Black Oregon).** Large size; cross between Royal Ann and Black Tartarian, having the solid flesh of the former and the color of the latter. Very late and good. July.

**Black Tartarian.** Fruit very large, bright purplish black. Flesh purplish, juicy, very rich and delicious. Tree a remarkably vigorous erect, and beautiful grower, and an immense bearer. Highly recommended for planting in all parts of the state except southern California and the hot interior valleys.



## The Plum

Plums and prunes are of one family. The main difference being that prunes are sweet plums capable of making a commercial dried product without removing the pit, while the commercial value of the plum is as a canner or shipper. The plum thrives in all parts of the state, and when given proper attention bears enormous crops of fruit. Most varieties of Plums will bear heavier crops if certain other varieties are planted nearby as pollenizers. The Burbank, Wickson and Climax all successfully pollinate the blossoms of most varieties, as well as each other, and we advise including some of these sorts in all plum plantings.

The plum is grown on both peach and Myrobalan roots. The peach root should be planted in sandy and loam soils, while the myrobalan or plum root is adapted to heavy moist soils.

Plum trees should be planted from twenty-two to twenty-five feet apart in orchard form.

When the tree is planted cut it back to 20 inches from the top of the ground. The young trees are quite subject to sun scald, and should be protected with tree protectors. The first winter the pruning is carried out to form the head of the tree, cutting back the frame-work branches one-half. The second winter all laterals should be removed except two on each of the frame-work branches, and cut those remaining to one-half. After the fourth the only pruning necessary is the removal of branches that interfere with others.

### VARIETIES AND DESCRIPTIONS

**Apex Plumcot.** This fruit as its name implies, is a cross between the Apricot and Plum, resulting in a satisfactory combination of the two fruits. Fruit very large, color light crimson, freestone. Flesh honey yellow color, very aromatic, rich and delicious. Very valuable for family orchard.



**Royal Ann**  
The Most Popular Canning Variety

**Burbank.** Originated by Luther Burbank. One of the largest and best early cherries grown. Fruit purplish black and very beautiful in appearance. Early May.

**Chapman.** Seedling of Black Tartarian but ripens earlier. Fruit large resembling Black Tartarian in color. Flesh fine grained, juicy and of delicious flavor. Tree vigorous grower and very productive. June.

**Early Richmond.** A good variety of the sour cherry type. Fruit red; acid; valuable for cooking and canning; tree a fine grower, hardy, healthy, and productive. Early June.

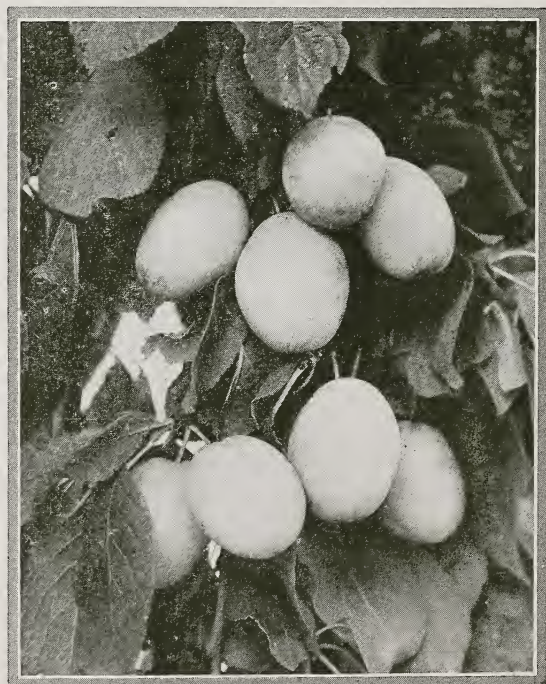
**Governor Wood.** Excellent for canning and table use. Fruit large of a light yellow color, shaded with a bright red. Flesh tender, juicy, sweet and delicious. Tree a vigorous grower and a heavy producer. June.

**Lambert.** The largest red cherry. Fruit roundish, heart shaped, smooth, glossy, dark purplish; flesh dark purplish red, firm, flavor rich; stem long. Valuable for shipping. Tree a regular and heavy bearer. Middle June.

**May Duke.** An old, well-known, excellent variety; large; dark red, juicy, sub-acid, rich. Valuable for home orchard. June.

**Morello.** Fruit large, dark red; tender, juicy, rich and acid; an excellent sour cherry. July.

**Royal Ann (Napoleon Bigarreau).** The leading cherry in California. Fruit largest size; pale yellow with bright red cheek; flesh very firm, juicy and sweet. The most popular variety for canning and shipping. Tree a rapid grower and an abundant bearer. Late June.



**Yellow Egg**  
One of the Best Canning Varieties



**Beauty.** Similar to the Santa Rosa but ripening ten days earlier. Fruit large and beautiful, oval, crimson with amber-crimson flesh. Tree a vigorous and upright grower. One of the very best early shipping plums. June.

**Burbank.** Fruit medium to large, round; color bright red slightly mottled with red; flesh deep yellow, very sweet, tree a very vigorous grower and a heavy bearer. Late June.

**Climax.** Very large, heart shaped; color deep red; flesh yellow, of fine flavor and pleasing fragrance. Tree very prolific and a never-failing bearer. One of the best of early shipping plums.

**Coe's Golden Drop.** Very large and beautiful, oval; color light yellow; flesh firm, rich and sweet; adheres to the stone. September.

**Damson.** Fruit small, oval; skin purple; flesh melting, juicy, with a sub-acid flavor. Excellent for jellies and preserves. September.

**Diamond** Very large, oval; color dark purple with deep bloom; flesh firm, deep yellow, with a brisk acid flavor. An immense bearer and a good shipper. August.

**Duarte.** A fine blood plum. Resembles Satsuma but superior both in productiveness and quality. July.

**Formosa.** Fruit very large, heart shaped and of light cherry red color. Flesh pale yellow, firm, sweet and with a delicious rich flavor. Tree a vigorous upright grower and a heavy bearer.

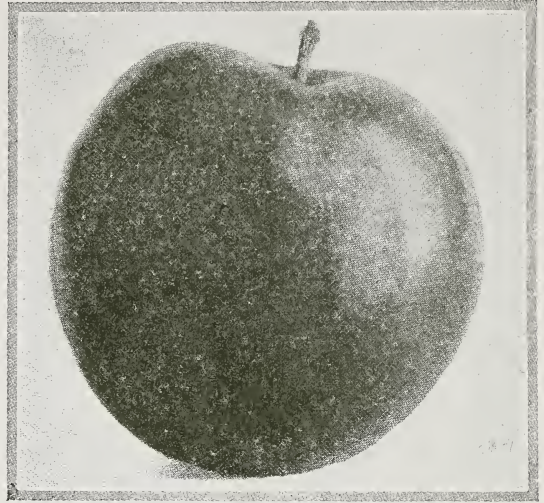
**Gaviota.** Fruit nearly round, sometimes oblate; deep purplish red; flesh firm, honey yellow and sweet; pit exceedingly small. Late July.

**Giant.** Fruit of immense size, dark crimson in color; flesh firm, rich, and sweet; an excellent shipper. Tree strong, and a regular and heavy bearer. Late August.

**Grand Duke.** A very good late shipping plum. Fruit very large; skin dark, almost blackish purple; flesh greenish yellow, adhering to the stone; flavor sweet and rich when ripe. Tree a regular and prolific bearer. Late August.

**Green Gage.** A very popular canning plum. Medium size, round; skin yellowish-green; rich and sweet when fully ripe. Tree is of slow growth, short, and of a rather dwarfish habit, but a regular and heavy bearer. Middle of August.

**Jefferson.** The leading canning plum. Large, oval, base slightly narrowed; color greenish yellow, becoming golden, with reddish cheek; flesh rich yellow, juicy and high-flavored and luscious; adheres partly to its long pointed stone. Tree a medium grower but very productive. August and September.



**Santa Rosa**

**Kelsey Japan.** Very large; greenish yellow, covered with red on the sunny side; flesh very solid and firm; juicy and with a rich vinous flavor; pit very small; splendid shipper; an immense bearer. September.

**President.** Very large and shaped like a Yellow Egg. Skin purple; flesh yellow and of fine texture. A very good late plum. September.

**Santa Rosa.** The best early plum. Fruit very large; color deep purple crimson, with a pale yellow bloom; flesh pale amber near the stone, shading to deep crimson near the skin; flavor rich, juicy and delicious. Tree an upright grower and a heavy bearer. One of the best shipping plums. Middle June.

**Satsuma.** The well known and popular Japanese blood plum. Fruit large, globular; skin reddish purple; flesh dark, rich red from skin to pit; flavor excellent; pit small. Unexcelled for jellies, preserves and canning. Tree a strong and heavy producer. July.

**Washington.** A valuable canning plum. Fruit large, roundish; skin dull yellow in color with pale crimson blush on surface exposed to sun; flesh yellow, firm and finely flavored. Tree a good grower and a heavy bearer. August.

**Wickson.** Very large, heart shaped; in ripening color changes from a cherry red to a brilliant claret as full ripeness is attained; flesh amber colored, very juicy and of a delicious flavor. Remarkable for long keeping. Tree vigorous and upright. August.

**Yellow Egg.** A very fine canning plum. Fruit large to very large, skin deep golden color covered with white bloom; flesh firm, juicy but rather acid, until very ripe, when it becomes sweet. August.



Improved French

## The Prune

The prune industry is one of the most important on the Pacific coast. It has lately been found that many sections formerly considered unfit for commercial prune growing are producing an abundance of prunes of wonderful quality. In California the French prune is the principal variety used for drying followed closely by the popular sorts such as Imperial, Robe de Sargent and Sugar, while the Tragedy and Hungarian are used for fresh shipping.

Prunes are budded on Myrobolan, Peach and Almond roots. The Myrobolan root is adapted to a wide range of soils but should always be used in low heavy land. The peach root is best for light well-drained soils, while the almond root is used on light gravelly soils.

The trees should be planted from 20 to 25 feet apart. The cultural directions are the same as apply to the plum, with the exception that some varieties of prunes, especially the Sugar, require severe pruning each year. On these all new growth should be cut back one-half to two-thirds. Prune growing has developed until today it is next in importance to the grape.

### VARIETIES AND DESCRIPTIONS

**French Improved.** This is the drying prune at present most widely grown in the state. There are many inferior strains, but the buds for our stock are selected by our experienced nurserymen from the best prune

orchards in the state. The tree is a very vigorous grower and bears abundantly in almost all sections of the state. The fruit is egg-shaped, has a rather thin neck and a deep violet color. The flesh is of good quality, sweet, rich and sugary. We do not hesitate to recommend planting large acreages of this variety. Ripens from August 20th to September 20th.

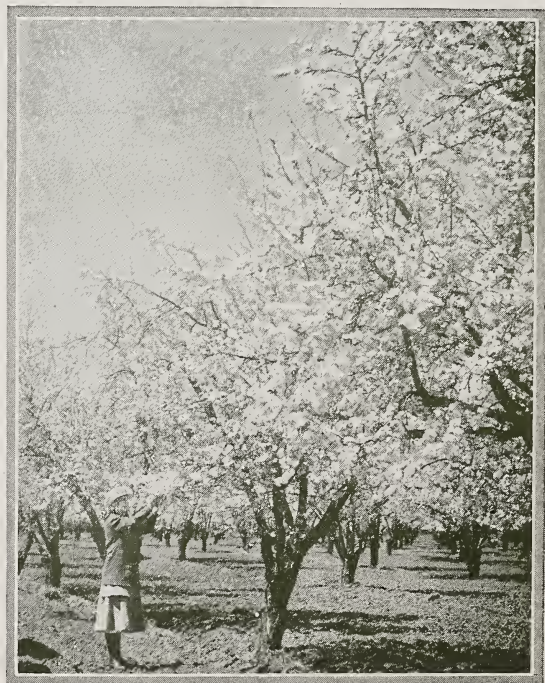
**Hungarian.** Excellent for shipping. Fruit very large, dark red, juicy and sweet. Tree a strong grower and a heavy bearer. Late August.

**Imperial.** The largest and finest prune cultivated in California. With its uniformly large size, reddish or light purple color, thin skin, sweetness and high flavor, it stands above all prunes. It contains more sugar than the French prune. Always commands the highest price in the market. Especially adapted to bench and hill land. Late August and early September.

**Robe de Sargent.** Medium size; oval; skin deep purple; approaching black, and covered with a thick blue bloom; flesh greenish yellow, sweet and well flavored; sugary, rich and delicious, adhering slightly to the pit. Dries larger and darker than the French and ripens ten days earlier. August.

**Silver.** Is a seedling of Coe's Golden Drop to which it is very similar. Fruit very large and pale yellow, dotted with red on the side exposed to the sun. The flesh is yellow, firm and rich. Makes an exceedingly attractive product when bleached and dried. Good also for canning. September.

**Sugar.** Extremely early, very large, dark purple cov-



Prunes in Blossom



ered with a thick bloom, flesh yellow, tender and rich. The tree is vigorous, a strong grower and a heavy bearer. On account of the high sugar content and its early ripening period, we do not hesitate to recommend it.

**Tragedy.** The large and attractive appearance of this variety has won for it the distinction of being one of the best shippers in the state. It is a beautiful dark purple in color, being elongated in shape, and flesh of a yellowish green, very juicy, rich and sweet in flavor. The tree is an upright grower, and a regular and heavy bearer. Its early ripening period also makes it a favorite. Early July.

## The Apricot

California has a monopoly on the production of Apricots as no other section of our country produces them in quantities at so little expense and small risk of failure of crops. The crop is principally dried and canned, although large shipments of the fresh fruit are made yearly to the Eastern markets with very satisfactory returns to the grower. The long dry summers facilitate the successful handling of the fruit with hardly any risk of loss, while the climatic conditions are such as insure an even cropping. It is particularly adapted to the interior valleys both north and south where the yield is heavy, sure and quality excellent. The great advantages of the valley plantings is that the fruit ripens nearly a month earlier than in the cooler coast regions, and the brown rot does not affect them in the drier climates of the interior, seriously, if at all.

On account of their tendency to spread, the trees should be planted not less than 20 to 30 feet apart in regular orchard form.

Apricot trees are worked on apricot, myrobalan and peach roots. The apricot root is best adapted to heavy loams which are well drained, the myrobalan root to the heavy moist soils, and the peach to the light silt and sandy locations.

The apricot tree is a very strong, straggly grower, and much care should be taken with the pruning for the first three or four years. They should be cut back to twenty inches at planting, and the laterals shortened to two

inches. In pruning the first winter after planting, remove all branches from the tree to a height of 12 inches and leave from three to five main branches to form the head of the tree, and cut these back to 12 inches. These limbs should be distributed around the trunk of the tree so as to prevent crowding and overlapping as the tree develops. The second year these branches should be cut back at least two-thirds of their length. The third year should be less severe. In the fourth and future years the pruning is carried out with a view of shaping and controlling such branches as tend toward making a rampant growth.

Apricots usually come into bearing the fourth year after planting, but it requires seven or eight years to bring the tree into full bearing. This, however, is dependent upon the care, cultivation and pruning given during the first four or five years after planting.

## VARIETIES AND DESCRIPTIONS

**Blenheim.** This variety is sometimes termed as an improved Royal, having all the good bearing qualities of the Royal, but being larger in size. One of the most widely known canning and drying varieties grown in California. Fruit oval; orange, with a deep yellow, juicy and rich flesh. Tree is vigorous grower and a prolific bearer. Ripens latter part of June.

**Hemskirke.** This variety is similar to the Moorpark in appearance but the tree is a much better bearer. Fruit large, roundish, but considerably compressed or flattened on its sides; skin orange, with red cheek; flesh bright orange, tender, with rich, luscious, plum like flavor. Ripens latter part of June.

**Moorpark.** One of the largest apricots grown, and while it is a shy and irregular bearer, it is a decided favorite with many people. Fruit deep orange or brownish red; flesh orange colored, rich and juicy. We do not recommend this variety for large plantings on account of its light bearing but we do largely recommend it for the family orchard. Ripens latter part of June.

**Newcastle.** Valuable for market purposes on account of its early ripening period. Fruit medium size, round,



Harvesting Prunes



free stone, rich in flavor and highly colored. Tree a regular and prolific bearer. Adapted for planting in the interior valleys and foothill sections. Ripens middle of May.

**Routier's Peach.** Derives the latter part of its name from the fact that it grows to unusual size, being in many instances as large as a medium sized peach. Fruit deep orange, mottled or splashed with red in the sun; flesh juicy and rich, high flavor and a good market variety. Very popular in the Sacramento and San Joaquin Valleys. Ripens middle of June.

**Royal.** The most extensively planted apricot in California. Fruit large size (when well thinned out) free stone, deep yellow flushed with red on the sunny side. The flesh is of light yellow color, juicy, firm, and has a delicious flavor. The tree is a strong grower and an exceedingly heavy producer. We highly recommend this variety for shipping, canning and drying purposes, for any section of the state where apricots may be grown. Ripens early June.

**Tilton.** This valuable apricot originated from a chance seedling grown by Mr. Tilton of Lemoore, Kings County, California, and now occupies an important position as one of the leading apricots grown in the state. It resembles the Routier's Peach Apricot and is fully as large. Fruit orange yellow, firm and has a delightful apricot flavor. The tree is a strong, rampant grower, and a heavy bearer. This variety is very largely planted in the San Joaquin Valley, where it seems to be well adapted, bearing wonderful crops which ripen evenly on the trees. As a dryer and canner it cannot be surpassed. Ripens about the middle of June.

## The Peach

California leads all other states in the production of peaches, in fact it is the leading horticultural product of that state. It is found widely distributed not only in California, but throughout the length and breadth of the Pacific slope, as well as in every state in the Union. For size, color, flavor, shipping and drying qualities, the peaches grown in this state are unsurpassed. There is no competition with California's output of dried and canned Peaches.

The best peach soils are light, deep, sandy loams, rather dry than moist, but under all circumstances well drained.

When the trees are set, cut them back to 20 inches from the top of the ground and shorten in all lateral branches, if any, to two buds. The first winter after planting cut away all branches up to 12 inches from the ground, and leave not more than four branches to form the head of the tree. These branches should be selected so as to form a symmetrical head. The second winter thin out the small lateral branches and leave not more than two or three on each of the framework branches, cutting these back one-half. This system can be followed each year but thinning out the lateral branches is necessary in order to prevent smothering the inside of the tree.

Peach trees are usually set from 20 to 24 feet apart. On light soils we suggest planting them 20 feet apart, but on heavier soils 22 to 24 feet.

Under proper treatment the trees should begin bearing the fourth or fifth years, and at six years begin to bear a profitable crop of fruit.

## VARIETIES AND DESCRIPTIONS

**Alexander.** Most widely grown as best early variety. Fruit medium to large; greenish white, nearly covered with deep red; flesh firm, juicy, and sweet; bears transportation well; pit is partly free. Early June.

**Briggs' Red May.** Fruit medium to large, color greenish white with bright red cheek, flesh white, melting and juicy. A good market sort. Middle June.

**Early Crawford.** Very large; freestone; skin yellow, with red cheek. The flesh is yellow, rich and of good flavor. Good for canning, drying or shipping. Tree very vigorous and prolific. One of the most largely planted early freestone varieties in California. Middle July.

**Elberta.** A fine peach and standard midsummer freestone. Fruit large, yellow, with red cheek; juicy, sweet and highly flavored; tree grows strong and healthy; very productive. One of the best known peaches for shipping, drying and canning. Late July.

**Foster.** Large, color yellow, dark red cheek, similar to Early Crawford but better in every respect. Is excellent for drying, canning or shipping. Middle July.

**Hale's Early.** Medium to large, nearly round; skin



Apricot Orchard in the Santa Clara Valley



## HEALDSBURG, CALIFORNIA

greenish, mostly covered and mottled with red when ripe; flesh white, melting, juicy and sweet; freestone. A good variety for local market and shipping. Early July.

**Heath Cling.** Large; skin downy; creamy white, with faint blush of red; flesh white slightly red at the pit; very tender, juicy, sweet and delicious. One of the very best peaches for canning. Middle of September.

**J. H. Hale.** A valuable variety, similar to the Elberta but larger. Skin smooth, very firm, flesh yellow, freestone, tender, quality the best. Tree very strong and vigorous grower. As a shipper it has no equal. Middle July.

**Late Crawford.** Very large freestone; roundish, skin yellow with red cheek; flesh deep yellow, juicy and of excellent quality; very firm; a good shipper; good for canning or drying. A popular and well known variety. Early August.

**Levy Late Cling.** Latest commercial cling peach. Ripens after the Phillips. Skin a deep yellow, firm, juicy, sweet, slightly vinous, a splendid late shipping peach. Tree a vigorous grower and a heavy bearer. Middle September.

**Lowell.** One of the best drying and canning freestones. Dries heavier than the Muir. Fruit almost perfectly round; color yellow, flesh fine, firm, yellow to the pit. Tree a vigorous grower and a heavy bearer.

**Mayflower.** The earliest peach known. Absolutely red all over; flesh white; juicy and of excellent flavor. Large as the Alexander and ripens two weeks earlier. Tree is a strong grower, blooms late, heavy bearer and requires thinning. Early May.

**McDevitt Cling.** Fruit very large; rich golden yellow; firm and of excellent flavor. Tree a strong grower and a regular bearer. A good shipper. Late August.

**McKevitt Cling.** A white clingstone; flesh very firm, fine-grained, sugary and rich, high flavor, white to the pit. Excellent for shipping or canning. Tree remarkably strong in growth and free from disease. Late August.

**Muir.** The best of all peaches for drying. Large to very large; perfect freestone; flesh clear yellow; very dense; rich and sweet; pit small. Fruit an excellent shipper or canner, but it is particularly adapted to drying because of its exceptional sweetness and density of flesh; yield, one pound dry from less than five pounds fresh. A regular and prolific bearer. Late July.

**Orange Cling.** Fruit very large; yellow with dark crimson cheek; flesh yellow, rich and sugary with the finest flavor; good bearer. Early August.

**Peaks Cling.** Another mid-season canning peach similar to the Pelora. It practically has the same color, and size. Ripens immediately after the Tuscan.



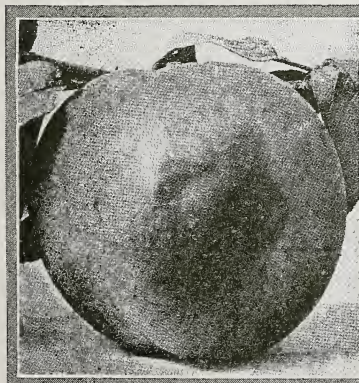
Full Bearing Peach Orchard

**Pelora.** A popular mid-season canning peach which is being planted on the peach growing sections to meet the demand of the canneries for a variety to follow the Tuscan but ripening before the Phillips. Fruit large, clear yellow to the pit; good bearer. Middle August.

**Phillips Cling.** The leading canning peach in California. Fruit large and yellow; flesh firm clear yellow to the pit which is very small; flesh highly colored and of fine texture. A favorite with the canners on account of its lateness of ripening which prolongs their canning season. Early September.

**Salway.** A late freestone variety. Fruit large; yellow with crimson cheek; flesh deep yellow; very juicy and sweet, good for canning, drying or shipping.

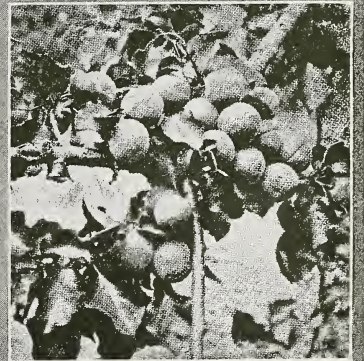
**Simms Cling.** Known as an improved Phillips Cling,



Hale's Early

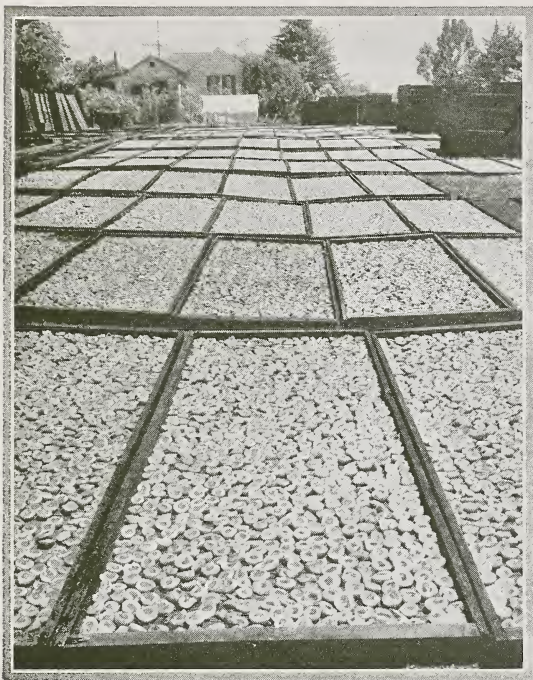


Phillips Cling



Royal Apricot





Drying Peaches

which it resembles. Fruit large, golden yellow with faint blush on exposed side; flesh deep yellow to pit which is small. Ripens just before the Phillips. Middle August.

**Strawberry Freestone.** Medium white with dark red markings; flesh white, juicy and highly flavored. Excellent variety for home orchard. Early July.

**Strawberry Cling.** Large yellow cling, splashed with bright red. Flesh white; slightly red around the pit. Fruit good shipper on account of its attractive appearance. Middle September.

**Triumph.** First yellow fleshed peach to ripen. A perfect freestone, pit very small. Fruit yellow, nearly covered with red, with uniform yellow flesh, clear to pit. Texture fine, flavor excellent. Middle June.

**Tuscan.** Next to the Phillips the best canning peach in cultivation. Fruit very large; yellow to the pit. As a bearer the tree cannot be excelled. Particularly adapted to planting in the interior valleys and foothill sections. Middle of July.

**Yellow St. John.** Similiar to the Early Crawford. Fruit large roundish, orange yellow color with deep red cheek. Flesh juicy, sweet and a perfect freestone. Early July.

## The Nectarine

The nectarine is a most delicious fruit, requiring the same culture as the peach, from which it differs by having a smooth skin like a plum. The mellowness of the pulp, combined with its rich, sweet aromatic flavor, renders it especially desirable for drying, canning or shipping. The Nectarines are budded on peach root and should be planted in light or loam soils.

### VARIETIES AND DESCRIPTIONS

**Advance.** Fruit large and round; skin green, blotched with red and brown on sunny side; flesh greenish-white and sugary, and of a delicate sub-acid flavor. Early July.

**Gower.** Earliest and best red nectarine. Fruit large, very firm, rendering it the best variety for shipping. Tree a remarkable grower and a heavy and consistent bearer. Early July.

**Humboldt.** Fruit very large; skin bright orange, streaked with very dark crimson in the sun; flesh orange, very tender, juicy and richly flavored. The leading yellow fleshed nectarine. August.

**New White.** Fruit large; skin greenish white; flesh white, tender, juicy and of delicious flavor; skin greenish-fine drying sort. Early July.

**Stanwick.** The leading variety. Fruit large size; flesh white tender, juicy and of delicious flavor; skin greenish-white shaded with reddish-purple in the sun. Tree an enormous bearer. The best variety for drying and shipping. August.

## The Fig

In the production of the fig, California has no serious competition. It occupies a foremost position among California fruits, being easy of culture and a most delicious fruit.

The fig thrives in the warm interior valleys and thousands of acres are annually planted in the San Joaquin and Sacramento valleys.

No tree responds to proper care, cultivation and pruning more than the fig. They should be planted 30 feet apart and on rich soil; 35 feet is preferable. When planting cut the tree back to 18 inches from the ground. The first winter cut all branches back to 12 inches being sure to wax all cuts, and leave three or four branches to form the head of the tree. These should be evenly distributed around the trunk so that they will not crowd one another. The second season cut away two-thirds of the new growth, leaving one or two shoots on the framework branches. The third season cut the new growth back one-half and reduce the lateral branches to two on each of the limbs shortened in the previous season. The pruning the following years should be only to remove interfering or crowding limbs.

All the varieties listed here are self-caprifying except the Calimyrna, which is the leading variety used in large commercial planting. The Capri figs are the wild figs which furnish the pollen by which the Calimyrna figs are fertilized through the aid of the fig-wasp (*Blastophaga grossorum*) that lives and breeds in the Capri figs. Without Capri figs the Calimyrna cannot be made to bear. Consequently a few Capri figs should always be planted with the Calimyrna.

### VARIETIES AND DESCRIPTIONS

**Calimyrna.** The leading commercial fig. Fruit large to very large; pyriform; very short, stalk short; ribs distinct; skin greenish yellow; pulp reddish-amber, sometimes pale amber, turning to dark amber just before falling; seeds large, yellow, fertile, overspread with a clear, white syrup, giving the fruit a richness and meatiness unsurpassed by any other fig. Dries readily and with less trouble and expense than any other fig, dropping to the ground of its own accord, and requiring only two or three days to dry when exposed to the sun. August.

**Kadota.** The leading variety for canning and pickling. Fruit medium size; skin thin and of a golden yellow color; pulp white tinged with pink towards the center. Early August.

**Mission (California Black).** The most dependable variety grown in California. Tree a very strong grower, often attaining a height of seventy-five feet and a spread of fifty feet. It is a regular and heavy bearer and has been proven to be a very profitable variety both for shipping and drying. Fruit very large with deep violet color; skin thin; flesh sweet and highly flavored. First crop ripens early in July, main crop August.

**White Adriatic.** A splendid drier and a good shipper. Fruit medium size, roundish; skin thin, greenish yellow;





Thrifty Young Fig Orchard

pulp bright red. A regular and a prolific bearer. Middle August.

**Wild or Capri Figs.** These figs serve as a home for the Fig Wasp *Blastophaga Grossorum*. They produce three

crops of fruit a year, thereby sustaining the life of the insect. The pollen from these figs carried by the Fig Wasp fertilizes the *Calimyrna*, which causes the fruit to bear. We have the following varieties: Capri No. 1, Capri No. 2, and Capri No. 3.

## The Olive

The Olive has long passed the experimental stage in California and now is being grown commercially with much success. It is especially adapted to the interior valleys where it reaches its highest state of perfection. When given proper cultivation and pruning it responds with abundant crops.

Olives thrive best on a deep well-drained loam, and should be planted 30 feet apart. In order to insure the best results for orchardists we top prune and shorten all the lateral branches before shipment from the nursery.

When the trees are planted, cut them back to 20 inches and shorten all laterals at least two inches. The first winter after planting cut all growth off except four or five branches which are to form the head of the tree, and have these properly distributed. At least two-thirds of their growth should be cut back. The second year, leave from one to two lateral branches on each framework branch and cut them back one-half. The future pruning of the tree is to preserve its shape and prevent overlapping and crossed branches from growing.

Olive trees usually come into bearing five years after planting, but do not reach their maturity until ten years of age. A ten-year-old orchard should produce two tons of fruit to the acre.

### VARIETIES AND DESCRIPTIONS

**Ascolano.** An excellent olive of large size and fine appearance, fruit often equaling in size the French Prune to which it is similar in shape. Tree a strong spreading grower and has a beautiful foliage. Late October.

**Manzanillo.** One of the standard varieties for green and ripe pickles. Fruit large, purplish black with light colored specks. Very hardy and a regular and prolific bearer. Early October.

**Mission.** Fruit medium to large, oblong; flesh is very firm and is highly recommended for the making of both green and ripe pickles, as well as oil. The tree is a handsome upright grower and is valuable as an ornamental. Late October.

**Sevillano.** The largest olive. When ripe of a bluish-black color; flesh adheres to the pit. The best variety for green pickles. October.



Fruiting Olive Branch



# Nuts

## The Almond

Almond culture is an important industry in favored sections of California, particularly on the higher lands of the valleys, and where late spring frosts do not occur. There are many sections producing abundant crops of excellent quality nuts, where a few years ago it was thought they could not be grown.

The tree prefers a loose, light, warm, well-drained soil. Almond trees are budded on both the almond and peach roots. The almond root is adapted to sandy or gravelly soils, while the peach root should be planted on loamy, compact soils.

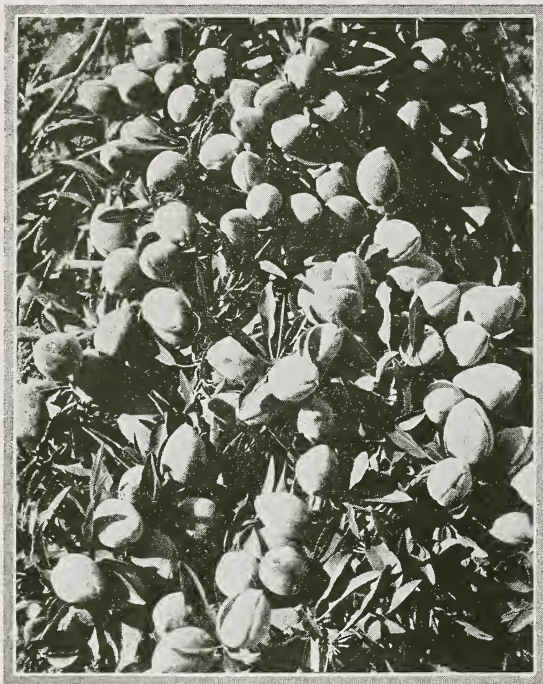
Two or more varieties of almonds must be planted together, in the right combination to secure successful pollination. The best fertilizing varieties are Drake's Seedling and Texas Prolific, and should be planted with such varieties as Nonpareil, Ne Plus Ultra, Peerless, and I X L, alternating at least every fourth to sixth row.

When planting, set the trees twenty-five feet apart and cut them back to twenty inches from the ground.

The following winter thin out the limbs, leaving three or four to form the head of the tree, and these should be properly distributed and cut back severely. The second winter the new growth should be cut back to one foot. The following winter all the pruning required will be to thin out overlapping or crowded branches, and such pruning should be carried out in future years.

### VARIETIES AND DESCRIPTIONS

**Drake's Seedling.** Well known variety and prized for its regular and heavy producing qualities. Valued also as a pollinizer. Nut medium size, roundish. Shell medium soft, kernel good size. Full bloom March 1st.



Nonpareil  
Most Popular Paper Shell Almond



Full Bearing Almond Orchard near Dixon



## The Walnut

**I X L.** One of the standard commercial varieties. Hulls easily, no machine needed; bleaching unnecessary. Nuts large and symmetrical; shell soft, smooth; kernel large and well filled. Tree a strong upright grower. Full bloom March 5th.

**Jordan.** A hard shell nut, and planted in almost all almond sections. It is largely used by confectioners on account of its rich high flavor. The kernels are single, narrow, long and plump, filling the entire cavity. Tree a strong grower and heavy bearer. Full bloom February 25th.

**Ne Plus Ultra.** Nut large and long; soft shell; fine flavor, hulls readily; a heavy and regular bearer; tree a strong grower. Full bloom March 5th.

**Nonpareil.** Most popular paper shell variety. Kernel long and narrow, and of excellent quality. Tree is a vigorous grower, producing heavy crops of large well filled nuts. Full bloom March 9th.

**Peerless.** Preferred by some to I X L, which it resembles, but the nut is larger. Shell medium soft, white. Kernel short, few doubles. Grown quite largely in Sacramento Valley where it is considered a very profitable variety. Full bloom March 5th.

**Texas Prolific.** Closely resembles Drake's Seedling. Kernel very plump and of medium size, shell soft. As the name indicates, this is a very heavy and regular bearer. Valuable to plant with other varieties for pollination. Tree a fine, strong grower. Full bloom March 22nd.

There is no other nut tree that will yield such abundant crops at so little effort or expense as the walnut. Although they prefer a deep, rich moist soil, and respond quickly to good and thorough cultivation, they will bear excellent crops when planted under adverse conditions.

Our trees are grown from carefully selected scions from the best fruiting trees, grafted on the California black walnut, which renders them adaptable to a very wide range of soils, and at the same time promotes a strong, robust growth.

The walnut should be set 50 feet apart, either in orchard form or along avenues. When the trees are planted, cut them back to 3 feet from the top of the ground. Very little pruning is required. After the head of the tree is formed the only pruning necessary is to remove overlapping and interfering branches.

### VARIETIES AND DESCRIPTIONS

**California Black Walnut Seedling.** Rapid growing and desirable as a stock for grafting or budding; adapts itself to all conditions. Nut medium size; hard, smooth shell.

**Concord.** This popular variety originated from a seedling planted years ago by the father of Mr. George Westcott, in Walnut Creek, Contra Costa County, California. The fact that the tree has been a strong grower and enormous bearer, producing large, smooth, round nuts, well filled, has placed it in the front rank as the sort to plant by all Walnut growers in this district.

**Eureka.** Tree remarkably vigorous; upright grower. About ten days later in blooming than other varieties. Nuts large, elongated smooth and tightly sealed. A desirable variety for planting in the interior valleys. Regularly productive.

**Franquette.** The standard among walnuts, and com-



Eureka



Concord

Franquette

Placencia

Mayette

manding a higher price in the market than any other. Nuts large, elongated, smooth and tightly sealed. A deform; kernel full, sweet, with a very rich nutty flavor. Blooms late in the spring.

**Mayette.** Ranks with the Franquette as one of the leading commercial varieties. Nuts large and uniform; shell light colored; blooms late in the spring and bears abundantly.

**Payne Seedling.** This, the Walnut of Walnuts, comes into bearing almost immediately. This nut originated on the Geo. Payne Ranch. It is the best bearer of all the different varieties. The description is similar to the Franquette. This variety must be kept heavily pruned or it will overbear, and the tree will become stunted. The Payne Seedling is thoroughly tested. It is being planted extensively in large tracts in those sections of the state where Walnuts are grown commercially. Its future is now a sure success.

**Placencia Perfection.** A vigorous grower; commences to bear abundantly about the fifth year after planting. Nuts large; shell smooth and thin; kernel white and sweet.

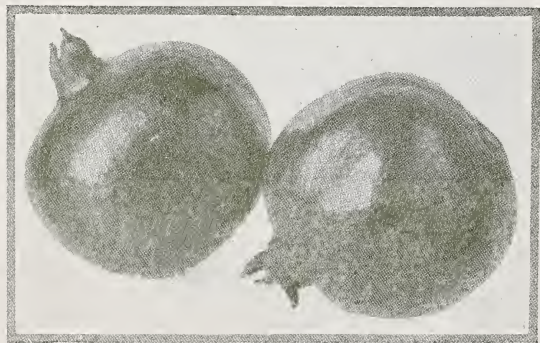
## The Chestnut

The chestnut is a favorite tree for park and avenue purposes. Being a late bloomer no danger of frost is encountered. Trees should be planted fifty feet apart each way.

**Spanish.** A highly ornamental tree of free growth and fine foliage. The nut is large, sweet and one of the hardiest and best varieties for general planting.

## The Pecan

In favored sections of California, especially in the Sacramento and San Joaquin valleys, the pecan thrives well making a rapid growth and producing abundant crops of nuts. The trees thrive in a variety of soils, but in the coast regions the nuts rarely mature owing to the fog and cold weather.



Wonderful

## The Pomegranate

Highly appreciated for its handsome fruit and the ornamental, semi-dwarf habit of the tree. The natural habit of the tree is to grow bushy, so very little pruning is required. Growers are finding an increasing demand for this wonderful showy fruit.

**Wonderful.** So far superior to other varieties that it is the only variety which we grow. Fruit very large, highly colored and attractive, pulp a rich garnet color, with an abundance of juice, and a delicious flavor. Valuable for shipping to eastern markets. October.

## The Persimmon

During the last few years the commercial value of the Persimmon has been realized, and it is now being extensively planted in many sections of the state. Where the Persimmon is known on the market it finds a ready sale. There are two varieties in cultivation, the Ameri-



Tane-Nashi  
The Leading Market Variety

can and Japanese. The American types are small and of little commercial value and are sold principally for ornamental planting.

The cost of cultivation, care and production is reduced to a minimum. The Persimmon prefers a light loamy soil but will give good results on land too poor for other crops. They can be produced at one-half the cost of other fruits as there is no frost risk, very few diseases and insect troubles and requires little pruning.

The trees should be planted 25 feet apart and cut back to eighteen inches when planted. The first winter select three or four branches to form the head of the tree, and cut them back one-half. The second season leave one upright limb on each of the framework branches and cut it back one-half. In the future years, the pruning should be continued to fashion the tree into the typical goblet form.

### VARIETIES AND DESCRIPTIONS

**Dai-Dai-Maru.** Fruit very large, round, somewhat flattened; color light yellow; flesh firm, juicy and delicious; seeds generally absent.

**Hachiya.** Fruit very large, oblong, conical, pointed toward the apex; color dark bright red; flesh yellow, with dark streaks; few seeds; a valuable variety, considered to be one of the best. October.

**Hyakume.** Fruit very large, roundish oval, flattened on both ends; color orange yellow; flesh rusty brown, with many purple or dark spots, and but few seeds; ripens early, and not astringent even when hard. October.

**Tane-Nashi.** Large to very large, broadly oblong, pointed; color bright red when ripe; flesh yellow, seedless, quality very fine. Tree a vigorous grower and a prolific bearer. A valuable market variety on account of its large size and earliness.

**Yemon.** Fruit is large, tomato shaped, a little square in outline; color light yellow, changing to dull red when ripe; flesh deep yellow, seedless or nearly so. Cannot be eaten until soft. November.

## Persian Mulberry

Rapid, dense growing tree; produces berries of large size and with a very juicy and aromatic flavor. Bears young and heavy.



# Citrus Fruits

Citrus culture is one of the great and growing industries of California. The largest citrus belt is found in the interior counties of the south, but favored locations are found along the foothill regions of the San Joaquin and Sacramento valleys.

The orange thrives best on a deep, heavy, rich and well-drained loam. They are usually planted not closer than 22 to 24 feet apart on the square method; with the exception of the slower growing varieties such as the Satsumas, Limes and Kumquats, which are of a dwarfish habit and should be planted from 12 to 15 feet apart.

Citrus trees being an evergreen can be planted at all seasons of the year although the months of March, April, May and June are considered the most favorable.

Great care should be taken not to allow the ball of earth around the roots to dry out before planting. When planting do not break the ball of earth and leave the burlap around the earth, as this soon rots. The trees should be set from one to two inches deeper than in the nursery. Leave a basin around the tree and fill this with water. When the earth is dry enough to break up fine, cultivate carefully and irrigate every ten days or two weeks, until the trees begin to grow; after that, irrigation is a matter of weather conditions, but never allow the trees to suffer for water.

Our citrus trees are headed at about 28 inches, hence all that is necessary for the planter to do is to shorten the branches to about six inches, and to thin them out, leaving not more than six, if they have a tendency to overcrowd.

Citrus trees require very little pruning. The first upright branches should be selected to form the head of the tree. The pruning should be carried out so as to form a well rounded symmetrical head. All interfering and overlapping branches should be removed and all water sprouts and suckers should be cut away as soon as they appear.

Citrus trees as a rule, come into bearing the third or fourth years after planting. A profitable crop should be harvested when the trees are eight years of age.

Our citrus stock is budded on sour orange root. We consider this the best for it is very resistant to gum disease and will stand a wide range of soils.

## Oranges

### VARIETIES AND DESCRIPTIONS

**Ruby Blood.** This variety is not planted extensively for market use but it is highly prized for home use. Tree a strong vigorous grower and a heavy bearer. Fruit medium size, nearly round, with a thin smooth yellow skin; pulp rich and sweet, streaked with red. Ripens February to May.

**Valencia.** Stands second to the Washington Navel in commercial importance. As the Navel season closes the Valencia season begins and lasts through the summer and fall months. Tree strong and vigorous, an upright grower and a prolific bearer. Fruit large, oblong, firm and juicy, with very little rag and few seeds. April to October.

**Washington Navel.** The orange that has made California famous as a citrus-growing state. The tree is a vigorous grower, a prolific bearer and makes a well rounded, uniform top. Fruit large; flesh meaty, tender, sweet and highly flavored; entirely seedless. Ripens November to March.

## Lemons

### VARIETIES AND DESCRIPTIONS

**Eureka.** The leading commercial lemon. The tree is a vigorous grower and is practically free from thorns. Fruit uniform and of medium size, smooth, glossy and an excellent keeper. Bears heavy and continuously especially during the summer months when lemons are in the greatest demand.

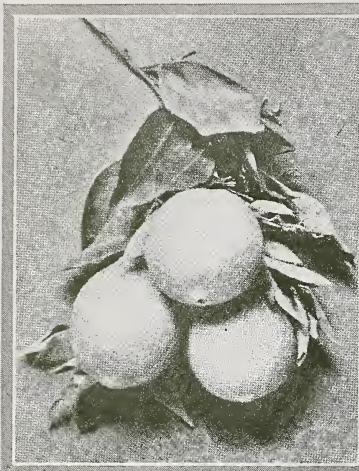
**Lisbon.** A popular variety on account of its fine quality. Fruit very juicy with strong acid flavor; fine grain; few seeds; keeps well; tree grows strong and bears heavy; branches thorny. December to May.

**Villa Franca.** A strong growing variety; nearly thornless; fruit oblong, juicy and nearly seedless; withstands lower temperatures than any other varieties. December to May.

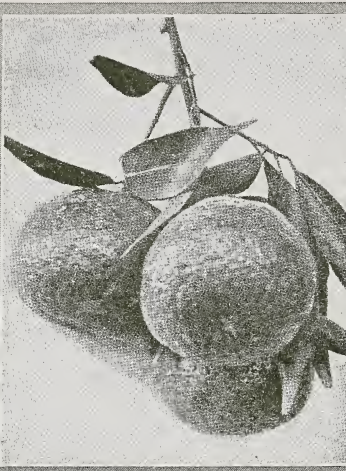


Orange Groves near Riverside





Washington Navel



Satsuma Orange



Marsh's Seedless

## Limes

**Bearss Seedless.** Out of the many varieties planted and tested in California, the Bearss Seedless has been found to be the best of all. Fruit large; seedless, very juicy with a pronounced acidity. Tree hardy and exceedingly productive; fruits mature the year round.

## Pomelos or Grapefruit

**Marsh's Seedless.** While there are other varieties of Pomelos grown, the Marsh's Seedless is so much superior in quality and size, that it is the only variety propagated to any extent. Tree a strong grower and highly

valued as an ornamental. Fruit medium to large, skin very smooth, glossy lemon yellow. Pulp very juicy with very little rag, and nearly seedless. March to October.

## Tangerines

### VARIETIES AND DESCRIPTIONS

**Dancy's.** The most popular Tangerine. Fruit small; skin orange red; pulp of best quality, not very seedy; rind separates freely from the flesh; juicy and highly flavored. Tree a strong grower and very prolific. February to May.

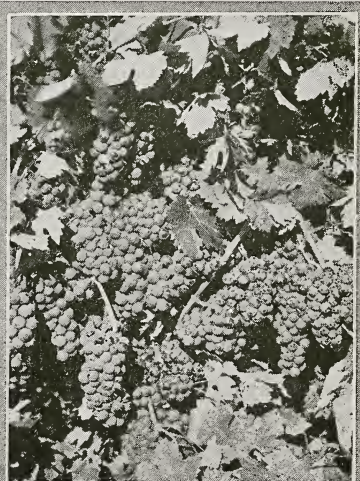
**Satsuma.** Fruit medium size; skin loose; flesh fine grained, tender, sweet and delicious. Tree rather dwarf, bears young and very hardy. November to May.



Thompson Seedless



Muscat



Zinfandel



# The Grape

California leads all other states in the production of grapes for table use, shipping and the manufacture of wine and raisins. The grape has a very wide range in California. The San Joaquin Valley is the center of the

## LAYING OUT A VINEYARD

Vines are generally planted in squares, but sometimes at a less distance in the rows than the rows from each other. In laying out a vineyard the base lines should first be established. This should be done with a transit so as to get the base lines at right angles. If the base lines are not at right angles, the rows will not be straight. For planting use a steel woven No. 19 galvanized wire divided up into sections as recommended under the head on "How to Plant." Along this wire patches of solder are placed exactly at the distances desired between the rows of vines, and to these places pieces of red cloth are sometimes fastened so that the points may be easily seen. Another style of measuring wire is made of small wire cable about a quarter of an inch in diameter, made of several strands of small wire. It is more flexible and less likely to become kinked than the large wire, and can be easily marked off to represent the distances by separating the strands a little at the desired points and inserting a little piece of red cloth, pressing the wires together again and tying firmly with a waxed thread to prevent slipping. At each end of the wire is fixed a strong iron ring about three inches in diameter. The stakes which are to be used for markers are usually split out of redwood, and at least six inches of one end should be dipped into a bucket of whitewash, so that the line of the base rows may be readily seen.

After setting the stakes along the outside line at the distance apart the vines are to be planted, start at the same end of the field again and set another line of stakes parallel with the first line, proceeding until the entire field is laid out in checks.

## DISTANCE OF PLANTING

There is much difference of opinion and practice in fixing the distance between vines. Planted in squares, the distance varies from seven to ten feet, with eight feet as most prevalent, taking the state as a whole. The prevailing practice is to plant wine grapes 8x8 feet, leaving out the twenty-fifth row for an avenue. For raisin grapes which are to be headed low, and the drying is to be done on trays in the vineyard, any of the following distances are satisfactory: 8x8, 7x10, 8x10, 4½x11. The wide rows should always be east and west, so the trays can get the full benefit of the sun's rays. For staked raisin grapes, where the drying is to be carried out in the vineyard, 6x12 feet is the distance usually employed. Table grapes should not be planted closer than 8x10 feet apart. The wide rows should run north and south so that the grapes will get more exposure to the sun.

## HOW TO PLANT

Great care must be taken in handling vines, especially those which are grafted, in order to prevent the roots and grafts from drying out. When received at their destination they should be immediately unpacked and heeled in moist ground. If the vines are grafted the tops should be completely covered with soil. When ready to plant cut off all rootlets except those starting from the base of the vine, and these should be cut back to two or three inches. Then prune the top of the vine, leaving only one spur with from one to three buds. In carrying to the field it is advisable that the plants be kept in a



Well-rooted One-year-old Vines

raisin industry, while Sonoma and Napa counties lead in the production of wine grapes. Nowhere in the world can a better grape or raisin be produced.

Grape vines will thrive in almost any soils which are fertile.



bucket of water until planted. A rooted vine should be planted so that the top is barely covered with soil but a grafted vine should be covered to a depth of at least two inches. Within a week after planting the earth should be settled around the vines either by hauling water to them or by irrigating, running the water in furrows along each row.

### STAKING

In autumn or winter following the planting the vines should be staked either before or after planting; in any case some time before the buds start in the spring. The stakes used depend on the variety of the vine and method of pruning to be ultimately adopted. Good strong stakes, about 5 to 6 feet long and 2x2 inches square are usually used. For the Muscat and Malaga which do not make long canes a 3 or 4 foot stake will answer. These stakes should be driven at least two feet in the ground, so they will stay firm and will not be loosened by the force of the wind on the vine, which is tied to the stake. The stake should extend two or three inches above the height at which the vine is intended to head. Place the stake 1 to 2 inches from the vine on the side opposite to the prevailing winds. It is very important to have the stem of the vine tied firmly to the stake to have it as straight as possible, for it will ultimately form the body of the vine.

### PRUNING

The young vines may be pruned at any time after the leaves have fallen. The way the vines are to be pruned will depend altogether on the growth they have made. If the growth has been small the tops are pruned exactly like rooted vines before planting. All the canes are removed except the strongest, and this is cut back to two buds. Any vines which have made a strong growth and possess at least one cane of sufficient length may be pruned for tying up. All the canes are removed entirely, except the strongest, and this is cut back to 10, 15 or 18 inches, according to the height at which it is intended to head the vine. The cane should then be carefully tied to the stake, two ties being needed in most cases. In the second winter four spurs should be left

on the low varieties, and these should be as evenly distributed as possible. The medium varieties should have at least six and the high vine not less than eight. These spurs should not exceed five inches in length. In the third winter each one of these spurs will have several canes and in the case of the low and medium vines, which ordinarily would not be trellised, low spurs with not more than three eyes in each should be allowed to remain. In future years these eyes from the original stock may be increased, depending on the growth of the vine. In the third year the trellising of high growth should commence. When this is done one cane and one short spur with three eyes or buds should be allowed to grow from the stock of the preceding year. For trellising, use a 12 gauge wire and either staple it to the stakes, or bore holes through the stakes and pass the wire through. The end stakes of each row are braced to prevent the wires from becoming slack.

### MILDEW

This is one of the most prevalent diseases of the vine in California. This is caused by a fungus, which affects leaves, canes and berries. The disease is recognized by grayish white coloring of the affected leaves, which, as the disease progresses, shrivel and dry up. The young cane also blackens and dries, and the individual grapes show whitish patches, which become darker colored and crack open. The usual remedy is finely ground sulphur, applied several times during the season.

### OUR VINES

We have a wonderful stock of vines both rooted and grafted. Our stock is all grown on new land and is absolutely free from phylloxera, nematode and other diseases.

### FOREIGN TABLE AND SHIPPING GRAPES

**Black Cornichón.** A favorite table variety. Bunches long and loose. Berries black, with deep blue bloom; long, oval, with thick skin; flesh firm and of fine flavor. One of the best late shipping grapes. October.

**Black Hamburg.** A fine tender grape. Bunches very large and compact; berries coal black when ripe; very large and oblong in shape; flesh very sugary, juicy and rich. A favorite for table and market. September.



Raisin Drying Scene near Fresno



## HEALDSBURG, CALIFORNIA

**Black Malvoise.** Berries large, oblong, reddish black with faint bloom; flesh juicy and delicious. Vine a strong grower and an immense bearer. Fine table, shipping and wine grape. September.

**Black Morocco.** Bunches medium to large; berries very large, round; purplish black when ripe; flesh sweet and crisp. An excellent late shipping grape. October.

**Black Muscat.** An excellent table grape. Berries very large; skin well colored, thin but tough; flesh soft and juicy with a rich Muscat flavor. A fine variety for home gardens. August and September.

**Dattier de Beyrouth.** A first class shipping grape and suitable for making raisins. Berries large, oval; skin a beautiful golden amber color overspread with a whitish bloom when full ripe; flesh very juicy and sweet. An excellent keeper. August and September.

**Emperor.** The best late shipping grape grown. Bunches very large and long; berry large, oblong, deep rose colored, covered with a light bloom; flesh firm and of excellent quality. Withstands rain better than any other variety. Vine a strong grower and a heavy bearer. October.

**Golden Chasselas.** An excellent grape resembling the Sweetwater but the berries are larger. Skin thin, amber color; flesh tender and delicious. July.

**Flame Tokay.** A standard table grape. Bunches large and compact; berries very large, oblong, red, covered with a lilac bloom; flesh firm, crackling and sweet. Vine a strong grower and a heavy bearer. September.

**Ladyfinger.** Bunches large and long; berries long, white and thin-skinned; flesh tender, crisp and sweet. August.

**Malaga.** A very good shipper. Bunches very large and compact. Berries very large, oval, yellowish green, with white bloom; thick skinned; flesh very firm, sweet, crisp and of an exquisite flavor. Vine a very heavy bearer. August.

**Olivette.** Similar to the Malaga but later. Bunches large and well filled; berries greenish yellow, firm, crisp and sweet. Skin tough making it a good shipping grape. October.

**Rose of Peru.** Bunches very large; berries round, large, with firm sweet flesh; skin black, tinged with yellowish green. A fine market variety. Vine a strong grower and bears exceedingly well.

**Sweetwater.** Bunches large and compact, berries medium size, round; skin thin, transparent, greenish yellow; pulp tender, juicy, sweet and richly flavored; one of the very best early grapes. July.

### WINE GRAPES

**Alicante Bouschet.** On account of the dark red color of the juice, this variety is largely used for the coloring of wine. In the last few years it has been bringing fabulous prices in the eastern market. The bunches are large shouldered closely set with medium sized grapes of black color. September.

**Burger.** Produces a light, white wine of excellent quality. Succeeds well on light soil. September.

**Carignan.** Berries oblong, black. Vine produces heavy crops and a highly colored, good wine. Will stand the rain well. September.

**Grenache.** A strong-growing variety; bunches conical, rather loose; berries bluish black; makes excellent wine but requires age. September.

**Mission.** Berries medium, round, black and sweet; bunches are large and loose; an old standard. August.

**Petit Syrah.** One of the best claret grapes; very vigorous grower and remarkably productive. Bunches loose, long and shouldered; berries of medium size, black, covered with bloom. September.

**Zinfandel.** The most popular and widely planted of the wine grapes. Bunches large and compact; berries round and dark purple in color. The vine is strong, healthy and vigorous, producing good crops.

### RAISIN GRAPES

**Muscat.** One of the most popular raisin, table and shipping grapes. Bunches long and loose. Berry oval, yellowish green and thick skinned; pulp very sweet and one of the richest flavored of all grapes. September.

**Sultana.** Largely planted for seedless raisins and table fruit. Bunches large and compact; berries small, round, firm and crisp; golden yellow without seeds. August.

**Thompson Seedless.** The most valuable raisin grape on account of its productiveness, early ripening period, and freedom from rain damage while being cured. Bunches very large and compact; berries greenish yellow; firm, oval and seedless; pulp crisp, and of very sweet delicious flavor; a good shipper and the best early variety. August.

**Zante Currant.** Bunches medium; berries small, seedless; skin thin, black; blue bloom. This is the variety producing the currant of commerce, under the name "Zante Currant" of which there are imported annually into the United States from Greece 1,000,000 pounds. August.

### AMERICAN GRAPES

**Concord.** The most widely known and popular of all the American grapes. Berries large, round, and of a glossy black color, covered with a blue bloom. The vine is a vigorous grower and very healthy, succeeding where the more tender foreign varieties fail. August.

**Isabella.** Extremely large, sweet and of extraordinary quality; berries bluish black; covered with a blue bloom. A strong growing variety, especially adapted for arbors. September.

**Niagara.** The best white variety of the American type. Fruit large; bunch medium, compact; skin thin but tough, pale yellow with whitish bloom; flesh tender and sweet; vine healthy and productive. August.

### RESISTANT VINES

The practical extermination of the French vineyards through the ravages of phylloxera, and the great damage it has caused in this state are too well known to require repetition here. This pest of the grapevine is closely allied to the aphids but lives chiefly on the roots. The only preventative against phylloxera, are vines grafted on a root resistant to the disease. The vines used for resistant sorts were originally wild American grapes, natives of the Mississippi Valley. These have been improved by hybridization and selection, until today a large number of sorts adapted to a variety of soils and locations have come into general use.

We specialize in the production of grafted vines and have the largest stock in the state. Our resistant vines are grafted chiefly on Rupestris St. George. We consider this the best for it adapts itself to a great range of soils, does equally as well in a moist, heavy clay soil as in the driest hillsides.

### ROOTED RESISTANT VINES

We have the following varieties for this season's delivery: Rupestris St. George, Lenoir, Rupestris No. 41 B, Rupestris No. 420, Rupestris No. 1202, and Rupestris No. 101-14.

### GRAFTED VINES

We have the following grafted vines for this season's delivery:

Alicante	Emperor	Petit Syrah
Carignan	Grenache	Rose of Peru
Burger	Golden Chasselas	Sweetwater
Black Monucca	Flame Tokay	Sultana
Black Muscat	Malaga	Thompson Seedless
Black Morocco	Mission	Zinfandel
Black Malvoise	Muscat	Zante Currant
Black Cornichon	Olivette	

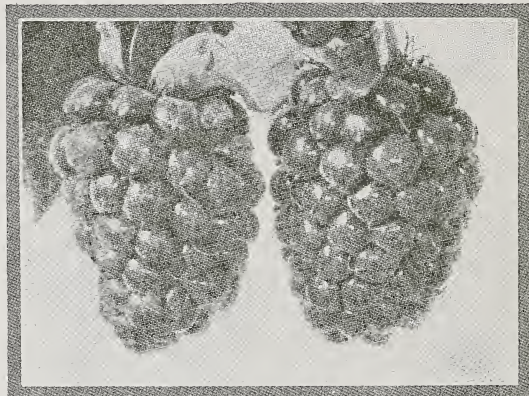


## Small Fruits

In suitable soils and situations, and with proper care and cultivation, the small fruits produce abundant crops and should be planted in every home garden. There are localities in California which favor almost continuous growth and fruiting of some of the small fruits, and in such a place raspberries and strawberries bear the year around.

Preparation of the soil should be thorough. It is necessary to work deeply because subsequent culture must be shallow. Plenty of well-rotted manure should be applied to the soil, as this will promote a vigorous growth. Blackberries and Raspberries should be planted in rows from 6 to 8 feet apart, and the plants 3 feet apart in each row, as they have a constant tendency to spread themselves in the rows.

In pruning the first season all the shoots which have attained a height of two feet should be shortened in to 20 inches. In the following years, after the leaves have fallen, and have left the canes bare, cut off the canes that have fruited during the summer so they will be level with the surface of the ground, then new canes will sprout out. Allow to remain for the coming season. After they have grown prune off or pinch the tips of each cane to force out the laterals. It is the new



Loganberry

growth that produces the choicest fruit. If the old canes are left on the plants they will produce inferior fruit.

If you intend to tie the canes to stakes or a trellis, let the plant attain a height of 5 to 6 feet before pinching or pruning off the tips of the new growth. If you intend to teach plants to stand alone, pinch off the tips when 2 to 4 feet in height.

### VARIETIES AND DESCRIPTIONS

**Cory's Thornless Blackberry.** Berries very large, sometimes measuring two and one-half inches. Core small; flavor sweet and delicious. Plant very vigorous, sending up strong stocky canes early in the spring, which often make a growth of twenty to twenty-five feet in one season. Thrives in any soil and will amply repay for special culture and fertilization. Absolutely thornless.

**Himalaya Blackberry.** Wonderfully vigorous grower, making canes up to forty feet in length, consequently must be grown on a trellis or along a fence. Berries of fairly good size, almost round, juicy and with small seeds. Bears after all other berries are gone, ripening over a period of several weeks.

**Mammoth Blackberry.** Fruit enormously large and ripens early. One of the finest flavored berries grown. Vine a decided trailer in habit and should be grown upon trellises. On account of the rampant growth it makes it should be planted at least nine feet apart.

**Loganberry.** A hybrid between the Raspberry and the Blackberry. Fruit large, and produced in immense clusters. Color a clear dark red. It partakes of the flavor of both the Blackberry and Raspberry—mild, pleasant, and having a flavor peculiar to this berry alone. Seeds small, soft and few. Berries very firm and carry well. Vine a strong grower and an enormous bearer. Fruit ripens early, just after strawberries.



Cory's Thornless

**Dewberry, Lucretia.** A trailing variety of the blackberry, producing an abundance of large, glossy black, handsome fruit of excellent quality; the fruit ripens early and does not sucker.

**Cuthbert Raspberry.** One of the leading red raspberries in California. Berries large, rich crimson; a good shipper. Vine a strong grower and an abundant bearer.

**Gregg Raspberry.** The leading black raspberry. Berries large, glossy black in color and possess a fine flavor. Vine a strong grower and a heavy bearer.

**St. Regis Raspberry.** The earliest red raspberry. Produces good crops throughout the season. Berries large size and excellent quality, rich and sugary with a decided raspberry flavor. A strong grower with abundant foliage.

**Phenomenal Berry.** Berries very large, of a bright crimson raspberry color; very productive. Berries grow in large clusters which resemble the loganberry.

## Strawberries

### VARIETIES AND DESCRIPTIONS

**Banner.** This is the famous "Banner" Berry that has become such a favorite up and down the Pacific Coast. The berries are uniformly of good size and are very finely shaped. On account of their size, shape and color they present a most attractive and appetizing appearance. It is an extraordinary prolific producer, returning a handsome profit to the commercial grower. The vines are of a very vigorous habit and do not require the same delicate attention as some other varieties.

**Brandywine.** An extra fine, very large and enormously productive medium-to-late Strawberry. Exceptionally sweet, perfect in form and of a rich, glossy crimson color, which permeates the flesh, almost to the center. An ideal dessert berry, unsurpassed for canning and preserving. The plant is a strong, luxuriant grower—succeeds in any soil and can always be depended upon to yield a bountiful crop.

**Magoon.** This self-fertilizing Strawberry is a leader in hardiness and possesses many desirable features. The berries are very large and of fine form. They are bright red in color, and have a very rich, full flavor. The Magoon is especially good where hard winters are the rule—as it will stand the most trying weather.

**New Oregon Improved.** A very vigorous grower, fruit of medium to large size. An even and abundant bearer, of good texture and color. Flavor sweet and delicious.

## Currants

**Cherry.** Fruit of the largest size; bunches short, berries large deep red; very vigorous and productive.

**Fay's Prolific.** This red currant is as large as the cherry; uniform; and does not contain much acid. A heavy bearer and very early.

**Perfection.** Berries beautiful bright red, very large; less acid and of better quality than any other large currant grown. A heavy bearer.



Banner

## Gooseberries

**Oregon Champion.** Berries very large, brownish red; very sweet and fine for table use and pies. An immense bearer and entirely free from mildew.

**Downing.** Fruit good size; oval, color whitish green; skin smooth; flesh soft, juicy and good; an upright grower and a vigorous bearer.

## Vegetable Plants

### Artichokes

**Globe.** The best variety in cultivation. Flower buds should be cut off as soon as they are well formed and before the scales open, otherwise they will be tough and tasteless. Never allow flowers to mature as plants will dwindle and die.

### Asparagus

**Conover's Colossal.** A standard kind of first quality; tender and highly flavored.

**Palmetto.** Recognized among asparagus growers as the leader. It is of large size, very tender and a regular grower. On account of its earliness it is highly valued for market purposes.

### Rhubarb


**Giant Crimson Winter.** Stalks are of mammoth size and of excellent flavor and quality.



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# PROTECT YOUR TREES

 LANTERS and nurserymen are particularly anxious to secure a perfect stand of their trees, and to avoid as far as possible any injury to them by sunburn, rabbits, squirrels, etc.

For such protection we advise the use of

## Yucca Tree Protectors

as we have found them to be very efficient and satisfactory to our many customers who are now using them.

The Yucca Protector is made from the Yucca Palm, being cut very thin (in the same manner as veneer wood) so as to admit plenty of ventilation and still afford the necessary protection for the young trees.

We are able to supply the Yucca Protectors, in the several sizes, at the following prices:

Length	Width	Wgt. Per 100	Per 25	Per 50	Per 100	Per 1000
30 in.	7 in.	22 lbs.	\$1.00	\$1.50	\$2.50	\$22.00
24 in.	7 in.	18 lbs.	.90	1.25	2.00	19.00
18 in.	7 in.	13 lbs.	.80	1.10	1.75	16.00
16 in.	7 in.	12 lbs.	.70	1.00	1.50	14.50
14 in.	7 in.	10 lbs.	.60	.85	1.40	13.20
12 in.	7 in.	9 lbs.	.50	.75	1.30	12.00

ADDRESS ALL ORDERS TO

J. F. MILLER & SONS  
HEALDSBURG, CALIFORNIA

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